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<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/505,182	HAUBMANN, MICHAEL	
	<b>Examiner</b>	<b>Art Unit</b>	
	Pascal M. Bui-Pho	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendments filed 21 February 2007.
2. ☒ The allowed claim(s) is/are 1,3-24 and 26-35.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

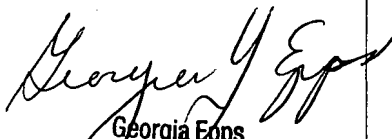
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

  
 Georgia Epps  
 Supervisory Patent Examiner  
 Technology Center 2800

**DETAILED ACTION*****Allowable Subject Matter***

1. Claims 1, 3-24, and 26-35 are allowed over prior arts.
2. The following is an examiner's statement of reasons for allowance:

**With regards to claim 1**, the prior arts of record fail to anticipate and/or render obvious, either solely or in combination, a method for detecting a shutter opening angle of an adjustable rotating shutter comprising, among other steps, detecting an absolute position of a shutter vane and an absolute position of a shutter adjustment vane with a resolution of  $n$  steps during one revolution of a rotatable shutter, and determining the shutter opening angle of the rotatable shutter from the equation

$$\alpha = [P_{BF} - P_{VF}] * 360^\circ / n$$

wherein

$P_{BF}$  is the position of the shutter vane and

$P_{VF}$  is the position of the shutter adjustment vane,

wherein when a value of opening angle  $\alpha$  is less than  $0^\circ$ , the value is increased by  $360^\circ$  as long as the resulting value is greater than or equal to  $0^\circ$  or when the value of angle  $\alpha$  is greater than or equal to  $360^\circ$  the value is reduced by  $360^\circ$  as long as the resulting value is less than  $360^\circ$ .

**With regards to claim 13**, the prior arts of record fail to anticipate and/or render obvious, either solely or in combination, a device for detecting a shutter opening angle of an adjustable rotatable shutter, comprising among other features, a first and second sensor emitting a shutter vane position signal and a shutter vane adjustment vane position signal, respectively, *with a resolution of  $n$  steps during one revolution* of the rotatable shutter; a position counter

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ascertaining the difference between the shutter vane position signal and the shutter adjustment vane position signal from the equation

$$\alpha = [P_{BF} - P_{VF}] * 360^\circ / n$$

wherein

$P_{BF}$  is the position of the shutter vane and

$P_{VF}$  is the position of the shutter adjustment vane,

wherein when a value of opening angle  $\alpha$  is less than  $0^\circ$ , the value is increased by  $360^\circ$  as long as the resulting value is greater than or equal to  $0^\circ$  or when the value of angle  $\alpha$  is greater than or equal to  $360^\circ$  the value is reduced by  $360^\circ$  as long as the resulting value is less than  $360^\circ$ .

**With regards to claim 35**, the prior arts of record fail to anticipate and/or render obvious, either solely or in combination, a method for detecting a shutter opening angle of an adjustable rotating shutter comprising, among other steps, ascertaining the difference between a shutter vane position and a shutter adjustment vane position as a value, said value being representative of the shutter opening angle of the rotatable shutter, wherein the positions of the shutter vane and the shutter adjustment vane are detected incrementally, wherein at least one reference signal is provided per revolution of the rotatable shutter and wherein the detected incremental signals are stored in the reference signal and wherein the shutter opening angle ( $\alpha$ ) of the rotatable shutter is determined from the equation

$$\alpha = [Z_{BF} - Z_{VF} + O] * 360^\circ / n$$

wherein

$Z_{BF}$  is the counter state of the shutter vane and

$Z_{VF}$  is the counter state of the shutter adjustment vane and

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O is the constant off-set which is determined from the equation

$$O = I_{BF} + I_{VF} + K$$

wherein

$I_{BF}$  is the index position of the shutter vane

$I_{VF}$  is the index position of the shutter adjustment vane

K is a calibrating value

wherein when the value of an angle  $\alpha$  which is less than  $0^\circ$ , the value is increased by  $360^\circ$  as long as the resulting value is greater than or equal to  $0^\circ$  or when the value of an angle  $\alpha$  is greater than or equal to  $360^\circ$  the value is reduced by  $360^\circ$  as long as the resulting value is less than  $360^\circ$  and wherein the calibrating value (K) is a correcting value arising from the relationship of a reference mark which is coupled to the shutter vane and a reference mark which is coupled to the shutter adjustment vane, wherein said reference marks are used in generating said at least one reference signal.

**Claims 3-12, 14-24, and 26-34** are allowed at least on the basis of their dependency upon an allowable base claim.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

I) Djachiachvili (US 6,850,351) discloses an apparatus and method for extremely fast opening and closing of an exposure path or optical axis.

II) Saiki (US 4,889,424) discloses a shutter system for a movie camera which controls the exposure of film including a main shutter wheel mounted on an axis and first and second adjustable shutter wheels positioned adjacent to and coaxially rotating therewith.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

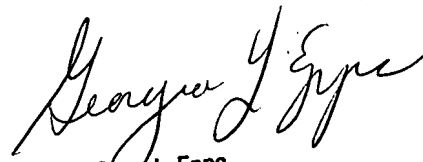
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pascal M. Bui-Pho whose telephone number is (571) 272-2714. The examiner can normally be reached on Monday through Friday: 8:30 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Pascal M. Bui-Pho  
Examiner, AU 2878  
03 May 2007



Georgia Epps  
Supervisory Patent Examiner  
Technology 800